WHAT IS CLAIMED IS:

1. A method for managing a plurality of network devices on a network, said method comprising the steps of:

detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol;

obtaining, by using the first communication protocol, an information block from each of the detected network devices, wherein the information block contains information related to the corresponding network device;

formatting each information block into a directory entry; and

sending each directory entry to a directory server via a second communication protocol.

2. A method according to Claim 1, wherein the first communication protocol is a network management protocol.

3. A method according to Claim 1, wherein the first communication protocol is SNMP.

4. A method according to Claim 1, wherein the second communication protocol is a directory-based protocol.

5. A method according to Claim 1, wherein the second communication protocol is Lightweight Directory Access Protocol.

6. A method according to Claim 1, wherein the second communication protocol is x.500 directory protocol.

7. A method according to Claim 1, wherein the step for detecting the presence of at least one of the plurality of network devices on the network includes:

sending a broadcast query message in the first communication protocol; and

receiving a reply message in the first communication protocol from each of the plurality of network devices that supports the first communication protocol,

wherein, the reply message contains network identification information related to the corresponding network device that sent the reply message.

8. A method according to Claim 7, wherein the step for obtaining an information block from each of the detected network devices includes:

sending an information request message in the first communication protocol to each detected network device; and

receiving an information response message in the first communication protocol from each of the detected network devices in response to the information request message, the information response message containing the information block from each detected network device,

wherein the information request message contains the network identification information related to the corresponding detected network device.

9. A method according to Claim 1, wherein the information block from each detected network device contains network-related information, feature information and status information for the corresponding network device.

10. A method according to Claim 1, wherein each directory entry is formatted according to a standardized schema.

11. A method according to Claim 1, wherein each directory entry is formatted according to a standardized schema and a schema extension.

12. A method according to Claim 1, wherein the step of sending each directory entry to the directory server includes sending an entry-addition message in the second communication protocol to the directory server for each directory entry, wherein each entry-addition message contains the corresponding directory entry.

13. A method according to Claim 12, wherein, in the case that an error message is received from the directory server in response to the entry-addition message which indicates that a directory entry already exists for the corresponding network device, an entry-modify message in the second communication protocol is sent to the directory server to replace the directory entry for the corresponding network device.

14. A method according to Claim 10, wherein the standardized schema of the directory entry includes a source-flag to indicate the source

of the directory entry, wherein the source-flag is set to a high state in the formatting step to indicate that the directory entry contains information obtained from the corresponding network device.

15. A method according to Claim 1, further including the steps of:

monitoring, by using the first protocol, each of the detected network devices for an update of the information in the information block of the network device; and

obtaining, in the case that the information in the information block of one of the detected network devices has been updated, the updated information of the information block from the corresponding network device by using the first communication protocol, and sending the updated information to the directory server by using the second communication protocol for placement into the directory entry for the corresponding network device.

16. A method according to Claim 15, wherein the step of monitoring each of the detected network devices for an update includes:

sending, on a frequent basis, a change query message in the first communication protocol to each detected network device; and

receiving a change indication message in the first communication protocol, in reply to one of the change query messages, from each detected network device in which the information block has changed.

17. A method according to Claim 16, wherein the step of obtaining the updated information of the information block from the corresponding network device includes:

sending an information request message in the first communication protocol to each detected network device for which a change indication message was received; and

receiving an information response message in the first communication protocol from each detected network device to which an information request message was sent, the information response message containing the information block from the corresponding detected network device,

wherein the information request message contains the network identification information related to the corresponding detected network device.

18. A method according to Claim 1, further including the steps of:

monitoring, by using a third communication protocol, for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server; and

obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second communication protocol, extracting updated data from the updated directory entry, and sending the updated data to the network device which corresponds to the updated directory entry for placement into the information block of the corresponding network device.

19. A method according to Claim 18, wherein the step of monitoring for issuance of an update message from the directory server includes:

monitoring the network for issuance of a multicast message which indicates the identity of a directory entry that has been updated in the directory server.

20. A method according to Claim 19, wherein the multicast message is issued from a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated.

21. A method according to Claim 19, wherein the step of obtaining the updated directory entry from the directory server includes:

sending an entry-query message in the second communication protocol to the directory server, wherein the entry-query message contains the identity of the updated directory entry; and

receiving an entry-return message in the second communication protocol from the directory server, wherein the entry-return message contains the updated directory entry,

wherein sending the updated data to the network device which corresponds to the updated directory entry includes sending an information update message in the first communication protocol to the corresponding network device.

22. A method according to Claim 1, wherein the method is performed in a directory proxy software module.

23. A method according to Claim 14, wherein the source-flag in each directory entry is utilized by a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated,

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a multicast message over the network which indicates that an updated directory entry has been detected, and

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a high state, the directory plug-in module resets the source-flag of the updated directory entry to the low state.

24. A method according to Claim 23, wherein the network includes an embedded-LDAP network device which contains an LDAP client, wherein the embedded-LDAP network device utilizes LDAP to send a directory entry to the directory server, the directory entry including a source-flag which is set to a high state, and

wherein, in the case that an updated directory entry corresponding to the embedded-LDAP network device is detected by the directory plug-in module and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a unicast message over the network to the embedded-LDAP network device

to indicate that an updated directory entry has been detected.

25. A method according to Claim 24, wherein the embedded-LDAP network device obtains, in response to the unicast message from the directory plug-in module, the updated directory entry from the directory server.

26. A method for managing a plurality of network devices on a network, said method comprising the steps of:

detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol;

obtaining, by using the first communication protocol, an information block from each of the detected network devices, wherein the information block contains information related to the corresponding network device;

formatting each information block into a separate directory entry;

sending each directory entry to a directory server by using a second communication protocol;

monitoring, by using the first protocol, each of the detected network devices for an update of the information in the information block of the network device;

obtaining, in the case that the information in the information block of one of the detected network devices has been updated, the updated information of the information block from the corresponding network device by using the first communication protocol, and sending the updated information to the directory server by using the

second communication protocol for placement into the directory entry for the corresponding network device;

monitoring, by using a third communication protocol, for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server; and

obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second communication protocol, extracting updated data from the updated directory entry, and sending the updated data to the network device which corresponds to the updated directory entry for placement into the information block of the corresponding network device.

27. A directory-enabled network device for managing a plurality of network devices on a network, comprising:

a program memory for storing executable process steps, the executable process steps comprising, (a) detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol, (b) obtaining, by using the first communication protocol, an information block from each of the detected network devices, wherein the information block contains information related to the corresponding network device, (c) formatting each information block into a directory entry, and (d) sending each directory entry to a directory server via a second communication protocol; and

a processor for executing the process steps stored in said program memory.

28. A device according to Claim 27, wherein the first communication protocol is a network management protocol.

29. A device according to Claim 27, wherein the first communication protocol is SNMP.

30. A device according to Claim 27, wherein the second communication protocol is a directory-based protocol.

31. A device according to Claim 27, wherein the second communication protocol is Lightweight Directory Access Protocol.

32. A device according to Claim 27, wherein the second communication protocol is x.500 directory protocol.

33. A device according to Claim 27, wherein the executable process step for detecting the presence of at least one of the plurality of network devices on the network includes (i) sending a broadcast query message in the first communication protocol, and (ii) receiving a reply message in the first communication protocol from each of the plurality of network devices that supports the first communication protocol,

wherein, the reply message contains network identification information related to the corresponding network device that sent the reply message.

34. A device according to Claim 33, wherein the executable process step for obtaining an

information block from each of the detected network devices includes, (i) sending an information request message in the first communication protocol to each detected network device, and (ii) receiving an information response message in the first communication protocol from each of the detected network devices in response to the information request message, the information response message containing the information block from each detected network device,

wherein the information request message contains the network identification information related to the corresponding detected network device.

35. A device according to Claim 27, wherein the information block from each detected network device contains network-related information, feature information and status information for the corresponding network device.

36. A device according to Claim 27, wherein each directory entry is formatted according to a standardized schema.

37. A device according to Claim 27, wherein each directory entry is formatted according to a standardized schema and a schema extension.

38. A device according to Claim 27, wherein the executable process step of sending each directory entry to the directory server includes sending an entry-addition message in the second communication protocol to the directory server for

each directory entry, wherein each entry-addition message contains the corresponding directory entry.

39. A device according to Claim 38, wherein, in the case that an error message is received from the directory server in response to the entry-addition message which indicates that a directory entry already exists for the corresponding network device, an entry-modify message in the second communication protocol is sent to the directory server to replace the directory entry for the corresponding network device.

40. A device according to Claim 36, wherein the standardized schema of the directory entry includes a source-flag to indicate the source of the directory entry, wherein the source-flag is set to a high state in the formatting step to indicate that the directory entry contains information obtained from the corresponding network device.

41. A device according to Claim 27, wherein the executable process steps further including the steps of (e) monitoring, by using the first protocol, each of the detected network devices for an update of the information in the information block of the network device, and (f) obtaining, in the case that the information in the information block of one of the detected network devices has been updated, the updated information of the information block from the corresponding network device by using the first communication protocol, and (g) sending the updated information to the directory server by using the second communication

protocol for placement into the directory entry for the corresponding network device.

42. A device according to Claim 41, wherein the executable process step of monitoring each of the detected network devices for an update includes (i) sending, on a frequent basis, a change query message in the first communication protocol to each detected network device, and (ii) receiving a change indication message in the first communication protocol, in reply to one of the change query messages, from each detected network device in which the information block has changed.

43. A device according to Claim 42, wherein the executable process step of obtaining the updated information of the information block from the corresponding network device includes, (i) sending an information request message in the first communication protocol to each detected network device for which a change indication message was received, and (ii) receiving an information response message in the first communication protocol from each detected network device to which an information request message was sent, the information response message containing the information block from the corresponding detected network device,

wherein the information request message contains the network identification information related to the corresponding detected network device.

44. A device according to Claim 27, wherein the executable process steps further including the steps of (e) monitoring, by using a

third communication protocol, for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server; (f) obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second communication protocol, extracting updated data from the updated directory entry, and (g) sending the updated data to the network device which corresponds to the updated directory entry for placement into the information block of the corresponding network device.

45. A device according to Claim 44, wherein the executable process step of monitoring for issuance of an update message from the directory server includes, (i) monitoring the network for issuance of a multicast message which indicates the identity of a directory entry that has been updated in the directory server.

46. A device according to Claim 45, wherein the multicast message is issued from a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated.

47. A device according to Claim 45, wherein the step of obtaining the updated directory entry from the directory server includes, (i) sending an entry-query message in the second communication protocol to the directory server, wherein the entry-query message contains the identity of the updated directory entry, and (ii)

receiving an entry-return message in the second communication protocol from the directory server, wherein the entry-return message contains the updated directory entry,

wherein sending the updated data to the network device which corresponds to the updated directory entry includes sending an information update message in the first communication protocol to the corresponding network device.

48. A device according to Claim 27, wherein the method is performed in a directory proxy software module.

49. A device according to Claim 40, wherein the source-flag in each directory entry is utilized by a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated,

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a multicast message over the network which indicates that an updated directory entry has been detected, and

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a high state, the directory plug-in module resets the source-flag of the updated directory entry to the low state.

50. A device according to Claim 49, wherein the network includes an embedded-LDAP network device which contains an LDAP client, wherein the embedded-LDAP network device utilizes LDAP to send a directory entry to the directory server, the directory entry including a source-flag which is set to a high state, and

wherein, in the case that an updated directory entry corresponding to the embedded-LDAP network device is detected by the directory plug-in module and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a unicast message over the network to the embedded-LDAP network device to indicate that an updated directory entry has been detected.

51. A device according to Claim 50, wherein the embedded-LDAP network device obtains, in response to the unicast message from the directory plug-in module, the updated directory entry from the directory server.

52. A device for managing a plurality of network devices on a network, comprising:

a program memory for storing executable process steps, the executable process steps comprising, (a) detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol, (b) obtaining, by using the first communication protocol, an information block from each of the detected network devices, wherein the information block contains information related to the corresponding network device, (c) formatting each

information block into a separate directory entry, (d) sending each directory entry to a directory server by using a second communication protocol, (e) monitoring, by using the first protocol, each of the detected network devices for an update of the information in the information block of the network device, (f) obtaining, in the case that the information in the information block of one of the detected network devices has been updated, the updated information of the information block from the corresponding network device by using the first communication protocol, and sending the updated information to the directory server by using the second communication protocol for placement into the directory entry for the corresponding network device, (g) monitoring, by using a third communication protocol, for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server, and (h) obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second communication protocol, extracting updated data from the updated directory entry, and sending the updated data to the network device which corresponds to the updated directory entry for placement into the information block of the corresponding network device.

53. Computer-executable process steps stored on a computer readable medium, said computer-executable process steps for managing a plurality of network devices on a network, said computer-executable process steps comprising:

detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol;

obtaining, by using the first communication protocol, an information block from each of the detected network devices, wherein the information block contains information related to the corresponding network device;

formatting each information block into a directory entry; and

sending each directory entry to a directory server via a second communication protocol.

54. Computer-executable process steps according to Claim 53, wherein the first communication protocol is a network management protocol.

55. Computer-executable process steps according to Claim 53, wherein the first communication protocol is SNMP.

56. Computer-executable process steps according to Claim 53, wherein the second communication protocol is a directory-based protocol.

57. Computer-executable process steps according to Claim 53, wherein the second communication protocol is Lightweight Directory Access Protocol.

58. Computer-executable process steps according to Claim 53, wherein the second communication protocol is x.500 directory protocol.

59. Computer-executable process steps according to Claim 53, wherein the step for detecting the presence of at least one of the plurality of network devices on the network includes:

sending a broadcast query message in the first communication protocol; and

receiving a reply message in the first communication protocol from each of the plurality of network devices that supports the first communication protocol,

wherein, the reply message contains network identification information related to the corresponding network device that sent the reply message.

60. Computer-executable process steps according to Claim 59, wherein the step for obtaining an information block from each of the detected network devices includes:

sending an information request message in the first communication protocol to each detected network device; and

receiving an information response message in the first communication protocol from each of the detected network devices in response to the information request message, the information response message containing the information block from each detected network device,

wherein the information request message contains the network identification information related to the corresponding detected network device.

61. Computer-executable process steps according to Claim 53, wherein the information block from each detected network device contains network-related information, feature information and status information for the corresponding network device.

62. Computer-executable process steps according to Claim 53, wherein each directory entry is formatted according to a standardized schema.

63. Computer-executable process steps according to Claim 53, wherein each directory entry is formatted according to a standardized schema and a schema extension.

64. Computer-executable process steps according to Claim 53, wherein the step of sending each directory entry to the directory server includes sending an entry-addition message in the second communication protocol to the directory server for each directory entry, wherein each entry-addition message contains the corresponding directory entry.

65. Computer-executable process steps according to Claim 64, wherein, in the case that an error message is received from the directory server in response to the entry-addition message which indicates that a directory entry already exists for the corresponding network device, an entry-modify message in the second communication protocol is sent to the directory server to replace the directory entry for the corresponding network device.

66. Computer-executable process steps according to Claim 62, wherein the standardized schema of the directory entry includes a source-flag to indicate the source of the directory entry, wherein the source-flag is set to a high state in the formatting step to indicate that the directory entry contains information obtained from the corresponding network device.

67. Computer-executable process steps according to Claim 53, further including the steps of:

monitoring, by using the first protocol, each of the detected network devices for an update of the information in the information block of the network device; and

obtaining, in the case that the information in the information block of one of the detected network devices has been updated, the updated information of the information block from the corresponding network device by using the first communication protocol, and sending the updated information to the directory server by using the second communication protocol for placement into the directory entry for the corresponding network device.

68. Computer-executable process steps according to Claim 67, wherein the step of monitoring each of the detected network devices for an update includes:

sending, on a frequent basis, a change query message in the first communication protocol to each detected network device; and

receiving a change indication message in the first communication protocol, in reply to one of the change query messages, from each detected network device in which the information block has changed.

69. Computer-executable process steps according to Claim 68, wherein the step of obtaining the updated information of the information block from the corresponding network device includes:

sending an information request message in the first communication protocol to each detected network device for which a change indication message was received; and

receiving an information response message in the first communication protocol from each detected network device to which an information request message was sent, the information response message containing the information block from the corresponding detected network device,

wherein the information request message contains the network identification information related to the corresponding detected network device.

70. Computer-executable process steps according to Claim 53, further including the steps of:

monitoring, by using a third communication protocol, for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server; and

obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second

communication protocol, extracting updated data from the updated directory entry, and sending the updated data to the network device which corresponds to the updated directory entry for placement into the information block of the corresponding network device.

71. Computer-executable process steps according to Claim 70, wherein the step of monitoring for issuance of an update message from the directory server includes:

monitoring the network for issuance of a multicast message which indicates the identity of a directory entry that has been updated in the directory server.

72. Computer-executable process steps according to Claim 71, wherein the multicast message is issued from a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated.

73. Computer-executable process steps according to Claim 71, wherein the step of obtaining the updated directory entry from the directory server includes:

sending an entry-query message in the second communication protocol to the directory server, wherein the entry-query message contains the identity of the updated directory entry; and

receiving an entry-return message in the second communication protocol from the directory server, wherein the entry-return message contains the updated directory entry,

wherein sending the updated data to the network device which corresponds to the updated directory entry includes sending an information update message in the first communication protocol to the corresponding network device.

74. Computer-executable process steps according to Claim 53, wherein the method is performed in a directory proxy software module.

75. Computer-executable process steps according to Claim 66, wherein the source-flag in each directory entry is utilized by a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated,

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a multicast message over the network which indicates that an updated directory entry has been detected, and

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a high state, the directory plug-in module resets the source-flag of the updated directory entry to the low state.

76. Computer-executable process steps according to Claim 75, wherein the network includes an embedded-LDAP network device which contains an LDAP client, wherein the embedded-LDAP network device utilizes LDAP to send a directory entry to

the directory server, the directory entry including a source-flag which is set to a high state, and

wherein, in the case that an updated directory entry corresponding to the embedded-LDAP network device is detected by the directory plug-in module and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a unicast message over the network to the embedded-LDAP network device to indicate that an updated directory entry has been detected.

77. Computer-executable process steps according to Claim 76, wherein the embedded-LDAP network device obtains, in response to the unicast message from the directory plug-in module, the updated directory entry from the directory server.

78. Computer-executable process steps stored on a computer readable medium, said computer-executable process steps for managing a plurality of network devices on a network, the executable process steps comprising:

detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol;

obtaining, by using the first communication protocol, an information block from each of the detected network devices, wherein the information block contains information related to the corresponding network device;

formatting each information block into a separate directory entry;

sending each directory entry to a directory server by using a second communication protocol;

monitoring, by using the first protocol, each of the detected network devices for an update of the information in the information block of the network device;

obtaining, in the case that the information in the information block of one of the detected network devices has been updated, the updated information of the information block from the corresponding network device by using the first communication protocol, and sending the updated information to the directory server by using the second communication protocol for placement into the directory entry for the corresponding network device;

monitoring, by using a third communication protocol, for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server; and

obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second communication protocol, extracting updated data from the updated directory entry, and sending the updated data to the network device which corresponds to the updated directory entry for placement into the information block of the corresponding network device.

79. A computer-readable medium which stores computer-executable process steps, the computer-executable process steps to manage a plurality of network devices on a network, said computer-executable process steps comprising:

detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol;

obtaining, by using the first communication protocol, an information block from each of the detected network devices, wherein the information block contains information related to the corresponding network device;

formatting each information block into a directory entry; and

sending each directory entry to a directory server via a second communication protocol.

80. A computer-readable medium according to Claim 79, wherein the first communication protocol is a network management protocol.

81. A computer-readable medium according to Claim 79, wherein the first communication protocol is SNMP.

82. A computer-readable medium according to Claim 79, wherein the second communication protocol is a directory-based protocol.

83. A computer-readable medium according to Claim 79, wherein the second communication protocol is Lightweight Directory Access Protocol.

84. A computer-readable medium according to Claim 79, wherein the second communication protocol is x.500 directory protocol.

85. A computer-readable medium according to Claim 79, wherein the step for detecting the

presence of at least one of the plurality of network devices on the network includes:

sending a broadcast query message in the first communication protocol; and

receiving a reply message in the first communication protocol from each of the plurality of network devices that supports the first communication protocol,

wherein, the reply message contains network identification information related to the corresponding network device that sent the reply message.

86. A computer-readable medium according to Claim 85, wherein the step for obtaining an information block from each of the detected network devices includes:

sending an information request message in the first communication protocol to each detected network device; and

receiving an information response message in the first communication protocol from each of the detected network devices in response to the information request message, the information response message containing the information block from each detected network device,

wherein the information request message contains the network identification information related to the corresponding detected network device.

87. A computer-readable medium according to Claim 79, wherein the information block from each detected network device contains network-related

information, feature information and status information for the corresponding network device.

88. A computer-readable medium according to Claim 79, wherein each directory entry is formatted according to a standardized schema.

89. A computer-readable medium according to Claim 79, wherein each directory entry is formatted according to a standardized schema and a schema extension.

90. A computer-readable medium according to Claim 79, wherein the step of sending each directory entry to the directory server includes sending an entry-addition message in the second communication protocol to the directory server for each directory entry, wherein each entry-addition message contains the corresponding directory entry.

91. A computer-readable medium according to Claim 90, wherein, in the case that an error message is received from the directory server in response to the entry-addition message which indicates that a directory entry already exists for the corresponding network device, an entry-modify message in the second communication protocol is sent to the directory server to replace the directory entry for the corresponding network device.

92. A computer-readable medium according to Claim 88, wherein the standardized schema of the directory entry includes a source-flag to indicate the source of the directory entry, wherein the source-flag is set to a high state in the formatting

step to indicate that the directory entry contains information obtained from the corresponding network device.

93. A computer-readable medium according to Claim 79, further including the steps of:

monitoring, by using the first protocol, each of the detected network devices for an update of the information in the information block of the network device; and

obtaining, in the case that the information in the information block of one of the detected network devices has been updated, the updated information of the information block from the corresponding network device by using the first communication protocol, and sending the updated information to the directory server by using the second communication protocol for placement into the directory entry for the corresponding network device.

94. A computer-readable medium according to Claim 93, wherein the step of monitoring each of the detected network devices for an update includes:

sending, on a frequent basis, a change query message in the first communication protocol to each detected network device; and

receiving a change indication message in the first communication protocol, in reply to one of the change query messages, from each detected network device in which the information block has changed.

95. A computer-readable medium according to Claim 94, wherein the step of obtaining the

updated information of the information block from the corresponding network device includes:

sending an information request message in the first communication protocol to each detected network device for which a change indication message was received; and

receiving an information response message in the first communication protocol from each detected network device to which an information request message was sent, the information response message containing the information block from the corresponding detected network device,

wherein the information request message contains the network identification information related to the corresponding detected network device.

96. A computer-readable medium according to Claim 79, further including the steps of:

monitoring, by using a third communication protocol, for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server; and

obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second communication protocol, extracting updated data from the updated directory entry, and sending the updated data to the network device which corresponds to the updated directory entry for placement into the information block of the corresponding network device.

97. A computer-readable medium according to Claim 96, wherein the step of monitoring for

issuance of an update message from the directory server includes:

monitoring the network for issuance of a multicast message which indicates the identity of a directory entry that has been updated in the directory server.

98. A computer-readable medium according to Claim 97, wherein the multicast message is issued from a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated.

99. A computer-readable medium according to Claim 97, wherein the step of obtaining the updated directory entry from the directory server includes:

sending an entry-query message in the second communication protocol to the directory server, wherein the entry-query message contains the identity of the updated directory entry; and

receiving an entry-return message in the second communication protocol from the directory server, wherein the entry-return message contains the updated directory entry,

wherein sending the updated data to the network device which corresponds to the updated directory entry includes sending an information update message in the first communication protocol to the corresponding network device.

100. A computer-readable medium according to Claim 79, wherein the method is performed in a directory proxy software module.

101. A computer-readable medium according to Claim 92, wherein the source-flag in each directory entry is utilized by a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated,

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a multicast message over the network which indicates that an updated directory entry has been detected, and

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a high state, the directory plug-in module resets the source-flag of the updated directory entry to the low state.

102. A computer-readable medium according to Claim 101, wherein the network includes an embedded-LDAP network device which contains an LDAP client, wherein the embedded-LDAP network device utilizes LDAP to send a directory entry to the directory server, the directory entry including a source-flag which is set to a high state, and

wherein, in the case that an updated directory entry corresponding to the embedded-LDAP network device is detected by the directory plug-in module and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a unicast message over the network to the embedded-LDAP network device

to indicate that an updated directory entry has been detected.

103. A computer-readable medium according to Claim 102, wherein the embedded-LDAP network device obtains, in response to the unicast message from the directory plug-in module, the updated directory entry from the directory server.

104. A computer-readable medium which stores computer-executable process steps, the computer-executable process steps to manage a plurality of network devices on a network, said computer-executable process steps comprising:

detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol;

obtaining, by using the first communication protocol, an information block from each of the detected network devices, wherein the information block contains information related to the corresponding network device;

formatting each information block into a separate directory entry;

sending each directory entry to a directory server by using a second communication protocol;

monitoring, by using the first protocol, each of the detected network devices for an update of the information in the information block of the network device;

obtaining, in the case that the information in the information block of one of the detected network devices has been updated, the updated information of the information block from the corresponding network device by using the first

communication protocol, and sending the updated information to the directory server by using the second communication protocol for placement into the directory entry for the corresponding network device;

monitoring, by using a third communication protocol, for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server; and

obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second communication protocol, extracting updated data from the updated directory entry, and sending the updated data to the network device which corresponds to the updated directory entry for placement into the information block of the corresponding network device.